

WHAT IS CLAIMED IS:

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1. An information-processing apparatus comprising:  
storage means for storing raw data and time-axis  
data which is related to said raw data and stored in said  
storage means by being associated with said raw data;

thumbnail-icon-generating means for generating a  
thumbnail icon representing said raw data read out at  
said storage means;

spiral-period-setting means for setting a spiral  
period of a virtual spiral on the basis of a  
predetermined unit time;

spiral-axis-setting means for setting a spiral axis  
of said virtual spiral on the basis of said predetermined  
unit time; and

thumbnail-icon-array-displaying means for  
displaying said thumbnail icon in an array on said  
virtual spiral on the basis of said time-axis data  
associated with said raw data represented by said  
thumbnail icon.

2. An information-processing apparatus according  
to claim 1, said information-processing apparatus further  
comprising:

representative-thumbnail-selecting means for  
selecting a specific one of a plurality of thumbnail

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icons displayed as said array on said virtual spiral as a representative thumbnail icon; and

representative-thumbnail-icon-array-displaying means for displaying said representative thumbnail icon selected by said representative-thumbnail-selecting means in an array on said virtual spiral.

3. An information-processing apparatus according to claim 1, said information-processing apparatus further comprising:

spiral-layer-synthesizing means for synthesizing a plurality of spiral layers each comprising said virtual spiral, said spiral axis and said thumbnail icons; and

synthesized-layer-displaying means for displaying a synthesized layer produced by said spiral-layer-synthesizing means.

4. An information-processing apparatus according to claim 1, further comprising:

thumbnail-icon-extracting means for extracting a specific thumbnail icon from a plurality of thumbnail icons displayed as said array based on said time-axis data on the basis of a predetermined regularity; and

data-outputting means for outputting raw data represented by said specific thumbnail icon extracted by said thumbnail-icon-extracting means.

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5. An information-processing apparatus according to claim 1, wherein said spiral period's unit time set by said spiral-period-setting means is a one-year unit including a spring, a summer, an autumn and a winter, or a month unit.

6. An information-processing apparatus according to claim 4, wherein said predetermined regularity includes at least a regularity based on a time axis representing at least hours, days, months or years, a regularity based on temperatures or a regularity based on humidity data.

7. An information-processing apparatus according to claim 1, wherein said representative-thumbnail-icon-array-displaying means displays said thumbnail icon as a semitransparent display.

8. An information-processing apparatus according to claim 1, further comprising visual-point-moving means for arbitrarily moving a visual point of said spiral layer displaying said virtual spiral, said spiral axis and said thumbnail icons.

9. An information-processing apparatus according to claim 8, wherein said visual-point-moving means automatically moves said visual point of said spiral layer along a time axis.

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10. An information-processing apparatus according to claim 8, wherein said visual-point-moving means moves said visual point of said spiral layer or changes the direction of a visual line of said spiral layer in respectively visual-point parallel-movement processing or visual-line-direction modification processing which is performed in accordance with an operation carried out manually on an operation key set in advance for said visual-point parallel-movement processing or said visual-line-direction modification processing respectively.

11. An information-processing apparatus according to claim 8, wherein said visual-point-moving means moves said visual point in said visual-point parallel-movement processing in at least the direction of an X, Y or Z axis in a displayed virtual space.

12. An information-processing apparatus according to claim 8, wherein said visual-point-moving means moves said visual point in at least one of yaw, pitch and roll directions in a displayed virtual space.

13. An information-processing apparatus according to claim 10, wherein said visual-point-moving means automatically resets said visual point to an origin's position set in advance after the lapse of a predetermined time since a manual operation to start said

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visual-point parallel-movement processing or said visual-line-direction modification processing.

14. An information-processing apparatus according to claim 10, wherein said visual-point-moving means automatically moves said visual point or automatically switches the position of said visual point to another location after the lapse of a predetermined time since a manual operation to start said visual-point parallel-movement processing or said visual-line-direction modification processing.

15. A computer-graphic-display program storage medium comprising:

storage step for storing raw data and time-axis data which is related to said raw data and stored in said storage means by being associated with said raw data;

thumbnail-icon-generating step for generating a thumbnail icon representing said raw data read out at said storage step;

a spiral-period-setting step of setting a spiral period of a virtual spiral on the basis of a predetermined unit time;

a spiral-axis-setting step of setting a spiral axis of said virtual spiral on the basis of said predetermined unit time; and

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a thumbnail-icon-array-displaying step of displaying said thumbnail icon in an array on said virtual spiral on the basis of said time-axis data associated with said raw data represented by said thumbnail icon.

16. A computer-graphic-display program storage medium according to claim 15, further comprising:

a representative-thumbnail-icon-selecting step of selecting a specific one of a plurality of thumbnail icons displayed as said array on said virtual spiral as a representative thumbnail icon; and

a representative-thumbnail-icon-array-displaying step of displaying said representative thumbnail icon selected at said representative-thumbnail-icon-selecting step in an array on said virtual spiral.

17. A computer-graphic-display program storage medium according to claim 15, further comprising:

a spiral-layer-synthesizing step of synthesizing a plurality of spiral layers each comprising said virtual spiral, said spiral axis and said thumbnail icons; and

a synthesized-layer-displaying step of displaying a synthesized layer produced at said spiral-layer-synthesizing step.

18. A computer-graphic-display program storage

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medium according to claim 15, further comprising:

a thumbnail-icon-extracting step of extracting a specific thumbnail icon from a plurality of thumbnail icons displayed as said array based on said time-axis data on the basis of a predetermined regularity; and

a data-outputting step of outputting raw data represented by said specific thumbnail icon selected at said thumbnail-icon-extracting step.

19. A computer-graphic-display program storage medium according to claim 15, wherein said spiral period's unit time set by said spiral-period-setting step is a one-year unit including a spring, a summer, an autumn and a winter, or a month unit.

20. A computer-graphic-display program storage medium according to claim 18, wherein said predetermined regularity includes at least a regularity based on a time axis representing at least hours, days, months or years, a regularity based on temperatures or a regularity based on humidity data.

21. A computer-graphic-display program storage medium according to claim 15, wherein at said representative-thumbnail-icon-array-displaying step, said thumbnail icon is displayed as a semitransparent display.

22. A computer-graphic-display program storage

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medium according to claim 15, said information-processing program further comprises a visual-point-moving step of arbitrarily moving a visual point of said spiral layer displaying said virtual spiral, said spiral axis and said thumbnail icons.

23. A computer-graphic-display program storage medium according to claim 22, wherein said visual-point-moving step automatically moves said visual point of said spiral layer along a time axis.

24. A computer-graphic-display program storage medium according to claim 22, wherein said visual-point-moving step moves said visual point of said spiral layer or changes the direction of a visual line of said spiral layer in respectively visual-point parallel-movement processing or visual-line-direction modification processing which is performed in accordance with an operation carried out manually on an operation key set in advance for said visual-point parallel-movement processing or said visual-line-direction modification processing respectively.

25. A computer-graphic-display program storage medium according to claim 22, wherein said visual-point-moving step moves said visual point in said visual-point parallel-movement processing in at least the direction of

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an X, Y or Z axis in a displayed virtual space.

26. A computer-graphic-display program storage medium according to claim 22, wherein said visual-point-moving step moves said visual point in at least one of yaw, pitch and roll directions in a displayed virtual space.

27. A computer-graphic-display program storage medium according to claim 24, wherein said visual-point-moving step automatically resets said visual point to an origin's position set in advance after the lapse of a predetermined time since a manual operation to start said visual-point parallel-movement processing or said visual-line-direction modification processing.

28. A computer-graphic-display program storage medium according to claim 24, wherein said visual-point-moving step automatically moves said visual point or automatically switches the position of said visual point to another location after the lapse of a predetermined time since a manual operation to start said visual-point parallel-movement processing or said visual-line-direction modification processing.